

Amendments to the Claims

Claim 1 (Currently amended): A method of applying aluminum alloy coatings on cast iron and steel products comprising product surface preparing and then plunging the product into an aluminum melt alloyed with zinc and silicon characterized by jet-abrasive preparing of the product and alloying the aluminum melt with zinc, silicon, magnesium, and tin in following mass percentage:

zinc 7.0-10.0

silicon 3.0-5.0

magnesium 0.5-1.5

tin 0.2-0.5,

while the temperature of the melt is in the range of 660-680°C such that the plunging results in application of the alloy to the product;

said product surface preparing including the jet-abrasive preparing;

whereby said aluminum coatings are applied without flux or preheating to within austenitic temperatures, said aluminum coatings further achieving a Mandrel test of 10 mm.

Claim 2 (New): A method of applying aluminum alloy coatings on cast iron and steel products comprising product surface preparing and then plunging the product into an aluminum melt alloyed with zinc and silicon characterized by jet-abrasive preparing of the product and alloying the aluminum melt with zinc, silicon, magnesium, and tin in following mass percentage:

zinc 7.0-10.0

silicon 3.0-5.0

magnesium 0.5-1.5

tin 0.2-0.5,

while the temperature of the melt is in the range of 660-680°C such that the plunging results in application of the alloy to the product;

said product surface preparing including the jet-abrasive preparing;

whereby said aluminum coatings are applied without flux or introduction of copper to the melt, said aluminum coatings further achieving a Mandrel test of 10 mm.

Claim 3 (New): A method of applying aluminum alloy coatings on cast iron and steel products comprising product surface preparing and then plunging the product into an aluminum melt alloyed with zinc and silicon characterized by jet-abrasive preparing of the product and alloying the aluminum melt with zinc, silicon, magnesium, and tin in following mass percentage:

zinc 7.0-10.0

silicon 3.0-5.0

magnesium 0.5-1.5

tin 0.2-0.5,

while the temperature of the melt is in the range of 660-680°C for a period of less than 5 minutes such that the plunging results in application of the alloy to the product;

said product surface preparing including the jet-abrasive preparing;

whereby said aluminum coatings are applied without flux;

and further providing that the aluminum coatings achieve a Mandrel test of 10 mm.

Claim 4 (New): A method of applying aluminum alloy coatings on cast iron and steel products comprising product surface preparing and then plunging the product into an aluminum melt alloyed with zinc and silicon characterized by jet-abrasive preparing of the product and alloying the aluminum melt with zinc, silicon, magnesium, and tin in following mass percentage:

zinc 7.0-10.0

silicon 3.0-5.0

magnesium 0.5-1.5

tin 0.2-0.5,

while the temperature of the melt is in the range of 660-680°C such that the plunging results in application of the alloy to the product;

said product surface preparing including the jet-abrasive preparing;

whereby said aluminum coatings are applied without flux or preheating the product prior to plunging in the melt, and further providing that said aluminum coatings achieve a Mandrel test of 10 mm.

Claim 5 (New): A method of applying aluminum alloy coatings on cast iron and steel products comprising product surface preparing and then plunging the product into an aluminum melt alloyed with zinc and silicon characterized by jet-abrasive preparing of the product and alloying the aluminum melt with zinc, silicon, magnesium, and tin in following mass percentage:

zinc 7.0-10.0

silicon 3.0-5.0

magnesium 0.5-1.5

tin 0.2-0.5,

while the temperature of the melt is in the range of 660-680°C such that the plunging results in application of the alloy to the product;

wherein the plasticity of the aluminum alloy coating is such that the coating passes up to a 10 mm mandrel test.

said product surface preparing including the jet-abrasive preparing;

whereby said aluminum coatings are applied without flux, and further providing that said aluminum coatings achieve a Mandrel test of 10 mm .